

RESEARCH, DEVELOPMENT & TECHNOLOGY TRANSFER QUARTERLY PROGRESS REPORT

Wisconsin Department of Transportation
DT1241 02/2011

INSTRUCTIONS:

Research project investigators and/or project managers should complete a quarterly progress report (QPR) for each calendar quarter during which the projects are active.

WisDOT research program category: <input type="checkbox"/> Policy research <input type="checkbox"/> Other		<input checked="" type="checkbox"/> Wisconsin Highway Research Program <input type="checkbox"/> Pooled fund TPF#	Report period year: 2013 <input type="checkbox"/> Quarter 1 (Jan 1 – Mar 31) <input type="checkbox"/> Quarter 2 (Apr 1 – Jun 30) <input type="checkbox"/> Quarter 3 (Jul 1 – Sep 30) <input checked="" type="checkbox"/> Quarter 4 (Oct 1 – Dec 31)
Project title: Performance and Design of Bridge Approach Panels in Wisconsin			
Project investigator: Brent Phares		Phone: 515-294-5879	E-mail: bphares@iastate.edu
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WisDOT contact: Barry Paye		Phone: 920-492-4116	E-mail: Barry.Paye@dot.wi.gov
WisDOT project ID: 0092-14-04	Other project ID:		Project start date: 8/13/2013
Original end date: 2/12/2015	Current end date: 2/12/2015		Number of extensions: 0

Project schedule status:

☒ On schedule ☐ On revised schedule ☐ Ahead of schedule ☐ Behind schedule

Project budget status:

Total Project Budget	Expenditures Current Quarter	Total Expenditures	% Funds Expended	% Work Completed
\$79,974.00	\$598.51	\$1,418.02	2%	2%

Project description:

It is widely recognized that approach slabs/panels play a critical role in the highway system. These panels must provide a smooth transition from mainline pavements to bridges. Beyond being responsible for the majority of roughness typically associated with bridges, these panels must be able to effectively accommodate thermal expansion and contraction of both the bridge and the mainline pavement. Improperly designed/constructed approach panels tend to lead to the formation of a bump at the end of the bridge. The bump is not generally a significant safety problem; rather it can be an expensive maintenance issue. It is very common to attach the approach slab to the bridge via a reinforcing bar extending from the paving notch. By attaching the approach slab to the bridge, one is able to move an expansion joint away from the critical area at the abutment; this promotes drainage of roadway water away from the bridge area. However, one detail that is critical to the long-term, effective performance of approach slabs is that they must allow for free and full expansion and contraction of the surrounding elements. In general, this is accomplished by detailing one or more expansion joints.

The objectives of this work are:

- Review and analyze current approach slab performance
- Review and analyze the national state of the practice with respect to approach slabs
- Determine what other currently adopted approach slab designs may be applicable to Wisconsin
- Determine if there is a problem with current approach slab performance and, if so, will new designs will improve performance
- Determine if three expansion joints are need to provide thermal expansion/contraction relief or if one joint will be sufficient

- Improve the constructability and performance of approach slabs

Progress this quarter (includes meetings, work plan status, contract status, significant progress, etc.):

This quarter we continue to collect information on the current state-of-the-art with respect to approach slabs. As previously communicated, we would like to have a meeting with the TOC on this information and to plan for the subsequent subtasks. If possible, it would be desired to have this meeting in February 2014.

Anticipated work next quarter:

We anticipate completing Task 1.1 and desire to meet with the TOC to coordinate the subsequent subtasks and tasks.

Circumstances affecting project or budget:

None.

Attach / insert Gantt chart and other project documentation

	Month																	
	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15
Task 1.1																		
Task 1.2																		
Task 1.3																		
Task 2																		
TOC Review, revision, and final submission																		

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Staff receiving QPR: K. Dinkins	Date received: 1/2/14
Staff approving QPR:	Date approved: